

FCC Allocates 50 MHz of New Spectrum for Public Safety, Adopts Standards for Ultra Wideband (UWB) Equipment

On February 14, 2002, public safety communications took a major step forward. During a full meeting, the Federal Communications Commission (FCC) unanimously voted to allocate 50 megahertz (MHz) of spectrum to public safety in the 4.9 gigahertz (GHz) band. The Commission also adopted conservative rules to protect public safety communications from interference caused by emerging ultra wideband (UWB) services. These two decisions are expected to usher in a new era of growth and improvement for communications by improving both the quality and range of services available to the public safety community.

Recognizing the critical need for additional spectrum to meet established domestic security priorities, the Commission ordered the 50 MHz spectrum allocation for public safety use on WT Docket 00-32. It is the largest single public safety spectrum allocation in history. The allocation is specifically designed to support broadband data and video services, and will require a significant rulemaking period to develop rules and standards for the new band.

Among the many areas the FCC will explore in the upcoming rulemaking proceeding are establishing licensing policies and service rules for the 4940–4990 MHz band, defining eligibility rules for band use, and reassessing the public safety designation. The Commission will request comments on band segmentation and channel planning initiatives, as well as technical standards for fixed and mobile operations, and will also study the effects of interference to and from operations in bands adjacent to the newly allocated public safety spectrum. (FCC news release: http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-219990A1.pdf)

In the same meeting, the FCC adopted rules governing operation of UWB devices on ET Docket 98-153. The decision was significant for new technology pioneers, and deferential to the National Telecommunications and Information Administration (NTIA), the Federal Law Enforcement Wireless Users Group (FLEWUG), and the public safety community—ensuring protection from interference while allowing use of new mission-critical equipment for urban search and rescue and other related functions. In 6 months to a year, the Commission will reevaluate to determine whether the emissions levels are too restrictive to foster industry growth while still protecting incumbent services. UWB promises to remain a highly contentious issue and will continue to involve regulatory authorities, manufacturers, and the public safety community.

Authorized use of UWB technology is limited to three major types of applications. *Imaging systems* include ground penetrating radar (GPR), wall and through-wall imaging, surveillance, and limited medical applications, and are subject to frequency and power restrictions under Part 15 of the Commission's rules, as well as licensing eligibility requirements under Part 90. *Vehicular radar systems* must operate only in the 24 GHz band, to detect objects in the driver's path, enable collision avoidance, and improve airbag activation and other safety functions. *Communications and measurement systems*, also controlled by Part 15 limitations, must operate on the 3.1–10.6 MHz bands and must only be used indoors, or are limited to hand held devices used for peer to peer applications. Some of these UWB categories will be available for scientific, medical, mining, and construction applications, while others will be designated for only law enforcement, fire and rescue, and other public safety services. (FCC news release: http://ftp.fcc.gov/Bureaus/Engineering_Technology/News_Releases/2002/nret0203.pdf)